

Livro de resumos das comunicações do  
Libro de resúmenes de comunicaciones del

# 4º Encontro Ibérico de Ecologia 4º Congreso Ibérico de Ecología

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## A Ecologia e os Desafios Societais La Ecología y los Retos Sociales



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DEPARTAMENTO DE  
CIÊNCIAS DA VIDA



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Elaboração/Maquetación: Susana Rodríguez Echeverría, João Loureiro, Sílvia Castro.

### Sp12. Oral

#### **Degrading ability of Carbamacepine and Naproxene by a mircroorganism molecularly identified as *Pseudomonas fluorescents*. Assessment of ecotoxicity**

González Benítez, N.<sup>1</sup>, Molina, M.C.<sup>1</sup>, Simarro, R.<sup>1</sup>, García-Cambero, P.J.<sup>2</sup>, Quijano, M.A.<sup>3</sup>, Díaz, E.M.<sup>1</sup>

(1) Universidad Rey Juan Carlos, (2) Centro Nacional de Salud Ambiental, Instituto de Salud Carlos III, (3) Universidad Politécnica de Madrid.

A third of the water available on our planet is used with agricultural, industrial and household usage, being these the main polluting activities. There is a very heterogeneous group of pollutants in aquatic systems which appear in trace concentrations known as PPCPs (Pharmaceuticals and Personal Care Products). Some of them, even at very low concentrations, are able to exert toxic effects environmental and public health, especially when they occur in complex mixtures. During recent years have developed efficient physico-chemical laboratory technologies, however in practice, the costs rise much, energy consumption and CO<sub>2</sub> emissions, do not allow its implementation on an industrial scale. The main aim of this study is to evaluate the degradation of carbamazepine and naproxen (two PPCs described in effluents from sewage water treatment plants, SWTP) by *Pseudomonas fluorescens* strain. This strain has been isolated from a microbial consorcio waters from SWTP and molecularly identified. The toxicity of the water is also estimated during the analysis, with particular emphasis on the toxicological effects at initial and final time. The ecotoxicological tests were performed on zebrafish embryos using a variety of criteria, with particular emphasis on those related to neurodevelopment.